

# इंटरनेट

# मानक

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IS 8919-1 (1978): Specification for Adjustable Adaptors for Tools with Self-Holding Taper Shanks, Part 1: Short Adaptors [PGD 32: Cutting tools]



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Indian Standard

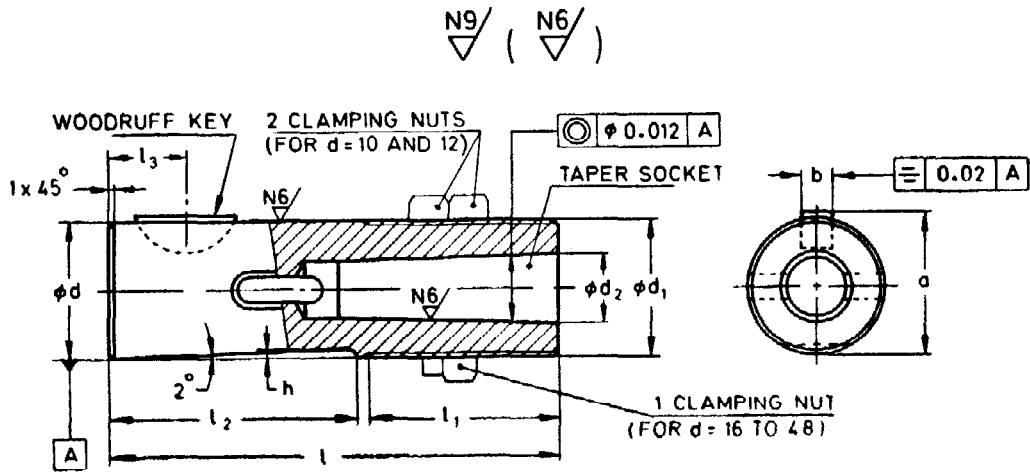


SPECIFICATION FOR  
ADJUSTABLE ADAPTORS FOR TOOLS WITH  
SELF-HOLDING TAPER SHANKS

PART I SHORT ADAPTORS

1. Scope — Covers the dimensions and requirements for adjustable adaptors for tools with self-holding taper shank, of short type to be used with taper shank drills, reamers and spot facing cutters used in multi-spindle heads. Typical application is given in Appendix A.

2. Dimensions



All dimensions in millimetres.

d h6	d <sub>1</sub> *	Taper	d <sub>1</sub> Basic Diameter	a	Tol on a	b P9/ h9	h Max	l	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Wood- ruff Key	Range of Adjust- ment
10	Tr10 × 1.5	Metric No. 6	6	10.9	0 -0.15	3	1	62	28	32	10	3 × 5	16
12	Tr12 × 1.5	Metric No. 6	6	12.9	0 -0.20	3	1	62	28	32	10	3 × 5	16
16	Tr16 × 1.5	Morse No. 0 or 1	9.045 or 12.065	17.1	0 -0.25	5	1.3	85	40	43	11	5 × 6.5	28
20	Tr20 × 2	Morse No. 1	12.065	21.1	0 -0.25	5	1.3	88	40	46	13	5 × 7.5	28
25†	Tr25 × 2	Morse No. 1 or 2	12.065 or 17.780	26.5	0 -0.25	6	1.5	95	42	51	15	6 × 9	30
28	Tr28 × 2	Morse No. 1 or 2	12.065 or 17.780	29.5	0 -0.25	8	1.5	95	42	51	15	6 × 9	30
36	Tr36 × 2	Morse No. 2 or 3	17.780 or 23.825	37.5	0 -0.35	8	1.7	118	50	65	20	8 × 11	36
48	Tr48 × 2	Morse No. 3 or 4	23.825 or 31.267	49.9	0 -0.35	10	2.2	144	65	76	24	10 × 13	47

\*Tolerance h6 is on the major diameter.

†In view of thin walls of size 25 × 2 adaptors, care must be taken to ensure that this adjustable adaptor is not unduly stressed by the drill and shall be used when holes have to be drilled at very close pitch at the same station.

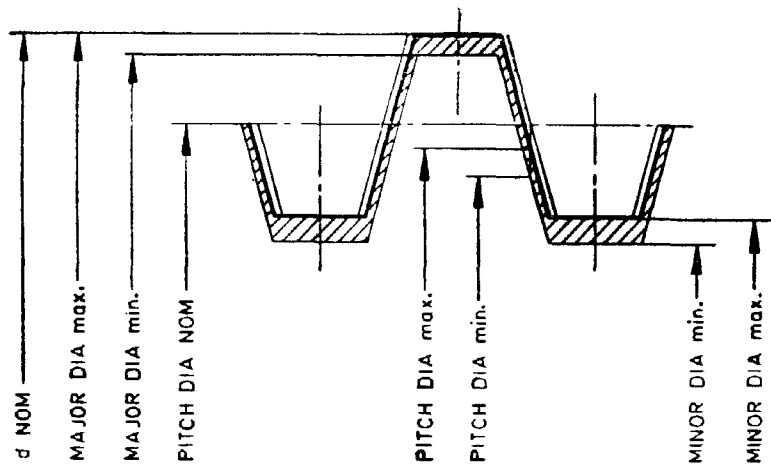
Adopted 26 October 1978

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**IS : 8919 ( Part I ) - 1978**

**2.1 Limiting dimensions for ISO metric trapezoidal bolt threads shall be as under:**



All dimensions in millimetres.

Thread Nominal Size $d \times P$	Major Diameter $d_1^*$ h6	Pitch Diameter		Minor Diameter	
		Maximum	Minimum	Maximum	Minimum
Tr8 $\times$ 1	8	7.440	7.300	6.800	6.565
Tr10 $\times$ 1.5	10	9.183	9.013	8.200	7.921
Tr12 $\times$ 1.5	12	11.183	11.003	10.200	9.903
Tr16 $\times$ 1.5	16	15.183	15.003	14.200	13.908
Tr20 $\times$ 2	20	18.929	18.729	17.500	17.179
Tr25 $\times$ 2	25	23.929	23.717	22.500	22.164
Tr28 $\times$ 2	28	26.929	26.717	25.500	25.164
Tr36 $\times$ 2	36	34.929	34.717	33.500	33.164
Tr48 $\times$ 2	48	46.929	46.705	45.500	45.149

\*The tolerance zone applying to the outside diameter of the trapezoidal thread and to the shank diameter  $d$  of the adjustable adaptor shall be h6.

**3. Material** — Carbon steel of tensile strength not less than 600 MPa\* in the core after case-hardening.

**4. Hardness** — Case hardened to 590 HV to 630 HV, except on threads, which may be left unhardened.

**5. General Requirements**

**5.1** Dimensions of tapers according to IS : 1715-1973 'Dimensions for self-holding tapers (first revision) '.

**5.2** Woodruff key and keyslot according to IS : 2294-1963 'Specification for woodruff keys and keyslots '.

**5.3** Clamping nuts according to IS : 8919 ( Part IV )-1978 ' Specification for adjustable adaptors for tools with self-holding taper shanks: Part IV Clamping nuts for adaptors '.

**5.4** The drift slot shall be provided 90° from the woodruff key and flat which are 180° apart.

**5.5** Tolerance on dimensions without specified tolerances, shall be of grade ' medium ' according to IS : 2102-1969 ' Allowable deviations for dimensions without specified tolerances ( first revision ) '.

\*1MPa = 0.1 kgf/mm<sup>2</sup> ( approx ).

**6. Workmanship and Finish** — The adaptors shall be manufactured in one piece and shall be free from cracks, burrs and other manufacturing defects.

**7. Sampling** — The sampling and criteria of acceptance according to IS : 7778-1975 'Methods for sampling small tools'.

**8. Designation** — A short adjustable adaptor with shank diameter  $d = 25$  mm, morse taper No. 1, having woodruff key and conforming to this standard shall be designated as:

Adjustable Adaptor 25 × 1 IS : 8919 ( Part I )

## 9. Marking

**9.1** The adaptors shall be marked with the shank diameter  $d$ , taper number and manufacturer's name or trade-mark.

**9.2 ISI Certification Marking** — Details available with the Indian Standards Institution.

## 10. Protective Coating and Packing

**10.1** Each adaptor shall be covered with a suitable rust proofing material.

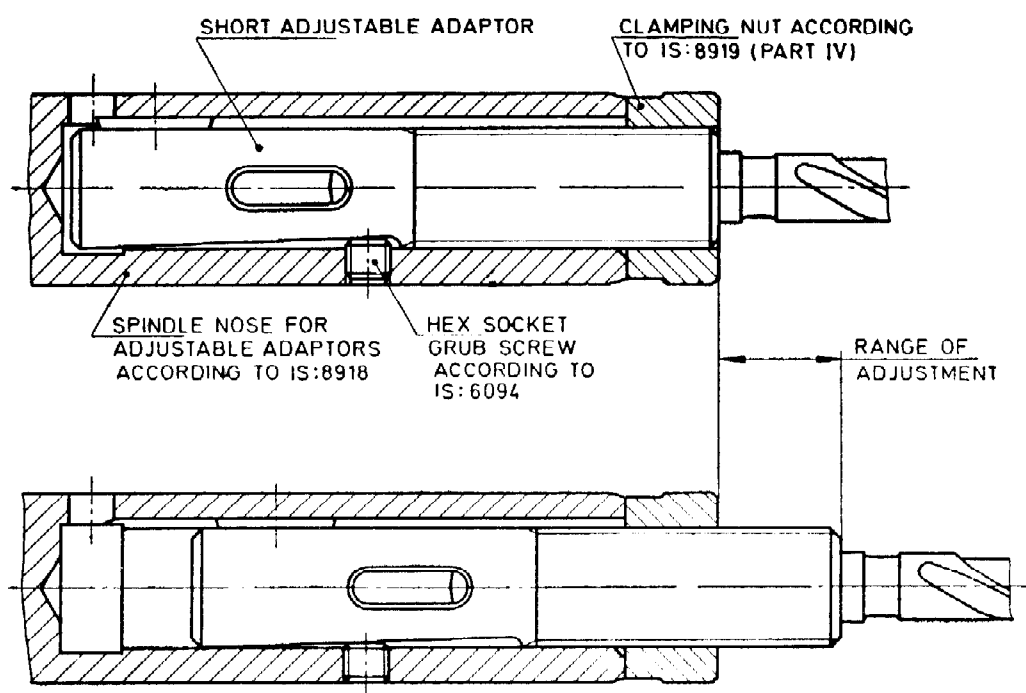
**10.2** Each adaptor shall be wrapped in a non-absorbent paper protected by a cover bearing the size, morse taper number and manufacturer's name or trade-mark.

**10.3** Adaptors of one size shall be packed in one carton.

## APPENDIX A

( Clause 1 )

### TYPICAL APPLICATION



**EXPLANATORY NOTE**

This standard on adjustable adaptors for tools with self-holding taper shanks is being issued in the following parts:

- Part I Short adaptors
- Part II Long adaptors
- Part III Extra long adaptors
- Part IV Clamping nuts for adaptors

In the preparation of this standard considerable assistance has been derived from the following publications:

- ISO 2905-1974 Modular units for machine tool construction — Spindle noses and adjustable adaptors for multi-spindle heads
- DIN 6327 ( Sheet 1 )-1972 Stollhulson mit Werkzeugkegel; kurzo Bauart ( Adjustable adaptors for tools with morse taper shanks — short types ) issued by Deutsches Institut für Normung